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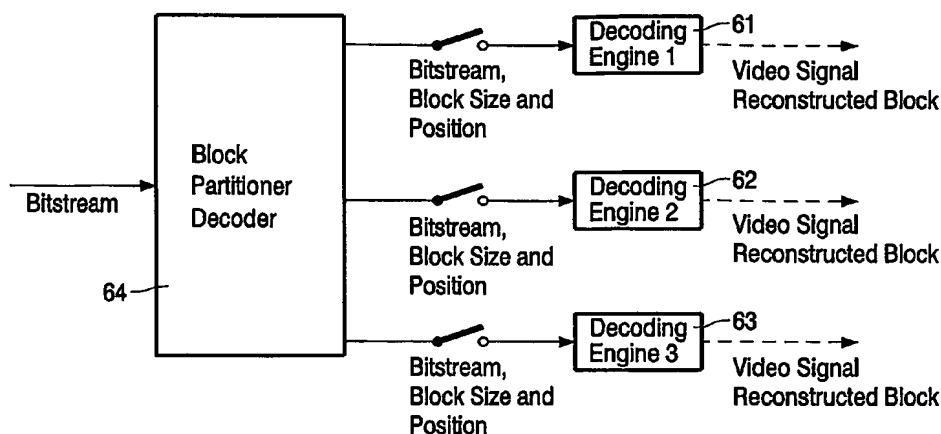
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[Continued on next page]

(54) Title: VIDEO ENCODING AND DECODING METHODS AND CORRESPONDING DEVICES



(57) Abstract: The invention relates to the field of video compression and, more specifically, to a video encoding method applied to an input sequence of frames in which each frame is subdivided into blocks of arbitrary size. This method comprises, for at least a part of the blocks of the current frame, the steps of : generating on a block basis motion-compensated frames obtained from each current original frame and a previous reconstructed frame; generating the said motion-compensated frames residual signals; using a matching pursuit algorithm for decomposing each of the generated residual signals into coded dictionary functions called atoms, the other blocks of the current frame being processed by means of other coding techniques ; coding said atoms and the motion vectors determined during the motion compensation step, for generating an output coded bitstream; said method being such that any atom acts only on one block  $B$  at a time, said block-restriction leading to the fact that the reconstruction of a residual signal  $f$  is obtained from a dictionary that is composed of basis functions  $g_{\gamma n \in B}$  restricted to the block  $B$  corresponding to the indexing parameter  $\gamma_n$ , according to the following 2D spatial domain operation :  $g_{\gamma n \in B}(i,j) = g_{\gamma n}(i,j)$  if pixel  $(i,j) \in B$  ;  $g_{\gamma n \in B}(i,j) = 0$  otherwise (i.e.  $(i,j) \notin B$ ).



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